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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/652,745

08/29/2003

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048968-117961

1765

27148

7590

12/23/2008

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EXAMINER

KANTAMNENI, SHOBHA

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

12/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/652,745	Applicant(s) SCHASTEEN ET AL.	
	Examiner Shobha Kantamneni	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 75,77-104 and 113-136 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) NONE is/are allowed.
- 6) ☒ Claim(s) 75,77-104,113-136 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In view of the appeal brief filed on 09/10/2008 and in view of new prior art, PROSECUTION IS HEREBY REOPENED.

The rejections of claims under 35 U.S.C. 103(a) as being unpatentable over Ivey et al. (US 5,928,686, PTO-892) made in the Final office action is herein withdrawn.

A new ground(s) of rejection(s) as set forth below are made.

Note that the last amendment filed on 04/11/2008 before the notice of appeal and the appeal brief filed are examined on the merits herein, wherein claims 75, 98, 99 have been amended and new claims 134, 135, 136 have been added. Claims 75, 77-104, 113-136 are pending and under examination on the merits herein.

To avoid abandonment of the application, appellant must exercise one of the following two options: (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or, (2) request reinstatement of the appeal. If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 133 is rejected under 35 U.S.C. 112, second paragraph, as being vague, and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "improved odor" in claim 33 is a relative term, which render the claim indefinite. The recitation "improved odor" is not defined by the claims, and the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 75, 77-87, 90-93, 96-97, 99-104, 113, 115-119, 133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven et al. (Eur. Assoc. Anim. Prod. Proc., jan, 2002, EEAP, Cairo, PTO-1449).

Dunn et al. teaches a method of killing microbes in animal feed such as pig feed, cattle feed, or poultry feed comprising treating animal feed with a binary blend of formic acid and propionic acid (preservative composition). See column 1-column 2; column 5-

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column 6. It is also taught that using a specific blend of formic acid and propionic acid, synergism is observed in respect of both their antimold and antibacterial activity. See column 1, lines 30-35. It is also taught that the mixture of formic acid, and propionic acid is a more potent inhibitor of salmonella infections than formic acid alone. See column 6, lines 30-34. Dunn et al. teaches that the preservative composition can be applied to feedstuff to be preserved in the form of an aqueous solution of the blend or the blend can be impregnated on a solid carrier such as e.g. silica and then mixed with the feedstuff to be preserved. See TABLE 3, wherein Broiler feed is employed in the BioAdd Blend which contains formic acid, propionic acid. It is also taught that the animal feed to which the preservative composition is applied may be pelleted or mash form. See column 1, lines 59-64. Dunn et al. also teaches that other C1-C4 aliphatic carboxylic acids have anti-mold activity and have been used as preservatives for crops and animal feedstuffs. See column 1, lines 10-15

Dunn et al. do not teach the employment of 2-hydroxy-4-(methylthio)butanoic acid in the preservative compositions therein.

Enthoven et al. teaches that 2-hydroxy-4-(methylthio)butanoic acid has antimicrobial effect. See abstract.

It would have been obvious to a person of ordinary skill in the art at the time of invention to add 2-hydroxy-4-(methylthio)butanoic acid to the preservative composition taught by Dunn et al. because Enthoven teaches that 2-hydroxy-4-(methylthio)butanoic acid has antimicrobial activity. It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in

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order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of Dunn et al., and Enthoven, the instant claims contain agents such as hydroxy-methylthio butanoic acid, propionic acid, formic acid, useful as antimicrobial agents. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

Furthermore, as the combined teachings of Dunn et al., Enthoven renders the claimed composition obvious, the property of such a claimed composition will also be rendered obvious by the prior art teachings, since the properties, "pH of less than about 5", "pH of about 4 to about 5", "pH of about 4.5", and "improved odor" are inseparable from its composition. Therefore, if the prior art teaches the composition or renders the composition obvious, then the properties are also taught or rendered obvious by the prior art. *In re Spada*, 911 F.2d 705, 709, 15 USPQ 1655, 1658 (Fed. Cir. 1990.) See MPEP 2112.01. The burden is shifted to Applicant to show that the prior art product does not possess or render obvious the same properties as the instantly claimed product.

Claims 88-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven (Eur. Assoc. Anim. Prod. Proc., 2002, EEAP, Cairo, PTO-1449) as applied to claims 75, 77-88, 90-93, 96-97, 99-104, 113, 115-119, 133 above, in view of Pinski et al. (US 2002/0172737, PTO-892).

Dunn et al., and Enthoven are applied as discussed above.

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The prior art references do not specifically teach that the formulations therein are mixed with food for feeding animal such as aquaculture.

Pinski et al. teaches a particulate foodstuff which is effective for feeding aquatic life such as crustaceans, fish, shell fish, comprising a particulate nutrient feed and an antimicrobial agent which provides shelf life for the foodstuff of at least about 6 months. See page 1, paragraph [0009]. The antimicrobial agent therein is selected from propionic acid, salt of propionic acid, citric acid or salt thereof. See page 5, claim 8.

It would have been obvious to a person of ordinary skill in the art at the time of invention to employ the formulation comprising 2-hydroxy-4-(methylthio)butanoic acid, organic acids taught by the combination of references to mix with feed for aquatic animal because Pinski teaches that the feed composition for feeding aquatic animals comprise antimicrobial agents.

One of ordinary skill in the art at the time of invention would have been motivated to employ the preservative composition taught by the combination of references in aquatic feed with reasonable expectation of obtaining aquatic feed formulations that have longer shelf life.

Claims 94-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven (Eur. Assoc. Anim. Prod. Proc., 2002, EEAP, Cairo, PTO-1449) as applied to claims 75, 77-87, 90-93, 96-97, 99-104, 113, 115-119, 133 above, and further in view of Friedman et al. (US 4,495,208, PTO-892).

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Dunn et al., and Enthoven are applied as discussed above.

The prior art references do not specifically teach that the formulations therein are mixed with food for feeding companion animal.

Friedman et al. teach that pet food for feeding pets such as dog food contains antibacterial agents.

It would have been obvious to a person of ordinary skill in the art at the time of invention to employ the formulation comprising 2-hydroxy-4-(methylthio)butanoic acid, organic acids taught by the combination of references to mix with feed for companion animals because Friedman teaches that the feed composition for companion animals such as cats, and dogs contain antimicrobial agents.

One of ordinary skill in the art at the time of invention would have been motivated to employ the preservative composition taught by the combination of references in companion animal feed because antimicrobial agents are well known to be used in dog food formulations.

Claims 121-122, 124-125, 127-128, 130-131, 134-136 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven (Eur. Assoc. Anim. Prod. Proc., 2002, EEAP, Cairo, PTO-1449) as applied to claims 75, 77-87, 90-93, 96-97, 99-104, 113, 115-119, 133, and further in view of Bland et al. (US 5,591,467).

Dunn et al., and Enthoven are applied as discussed above.

The prior art references do not specifically teach the employment of organic acids such as lactic acid, butyric acid.

The prior art references do not teach the particular amounts of 2-hydroxy-4-(methylthio)butanoic acid, lactic acid, butyric acid.

Bland et al. teach that organic acids such as formic acid, propionic acid, butyric acid, lactic acid have antibacterial properties and kill bacteria in solution. See column 9, lines 5-10.

It would have been obvious to a person of ordinary skill in the art at the time of invention to add organic acids such as lactic acid, butyric acid to the preservative composition taught by Dunn et al. because Bland et al. teaches that s lactic acid, butyric acid has antimicrobial activity. It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of Dunn et al., Enthoven, and Bland et al., the instant claims contain agents such as hydroxy-methylthio butanoic acid, propionic acid, formic acid, lactic acid, butyric acid useful as antimicrobial agents. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids employed in the compositions, since the

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optimization of effective amounts of known agents, is considered well in the competence level of an ordinary skilled artisan, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claims 114, 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven (Eur. Assoc. Anim. Prod. Proc., 2002, EEAP, Cairo, PTO-1449) as applied to claims 75, 77-87, 90-93, 96-97, 99-104, 113, 115-119, 133 above, and further in view of Rolow et al. (US 6,355,289, PTO-892).

The combination of references do not specifically teach the employment of phosphoric acid, and the particular amounts of said acid.

Rolow teaches a method of extending the shelf life of tortillas made from corn flour by adding mold growth inhibitors i.e. preservatives or antimicrobial agents such as acetic acid, propionic acid, butyric acid, benzoic acid, phosphoric acid. See abstract; column 1, lines 55-58; column 3-column 4.

It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of the prior art, the instant claims contain antimicrobial agents,

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hydroxy-methylthio butanoic acid, formic acid, lactic acid, propionic acid, butyric acid, phosphoric acid. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids and acidulant employed in the compositions, since the optimization of effective amounts of known agents, is considered well in the competence level of an ordinary skilled artisan, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claims 123, 126, 129, and 132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (US 4,824,686, PTO-892), in view of Enthoven (Eur. Assoc. Anim. Prod. Proc., 2002, EEAP, Cairo, PTO-1449), in view of Bland et al. (US 5,591,467), and further in view of Rolow et al. (US 6,355,289, PTO-892).

Dunn et al., Enthoven, Bland et al are applied as discussed above.

The combination of references do not specifically teach the employment of phosphoric acid, and the particular amounts of said acids.

Rolow teaches a method of extending the shelf life of tortillas made from corn flour by adding mold growth inhibitors i.e preservatives or antimicrobial agents such as acetic acid, propionic acid, butyric acid, benzoic acid, phosphoric acid. See abstract; column 1, lines 55-58; column 3-column 4.

It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of the prior art, the instant claims contain antimicrobial agents, hydroxy-methylthio butanoic acid, formic acid, lactic acid, propionic acid, butyric acid, phosphoric acid. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids and acidulant employed in the compositions, since the optimization of effective amounts of known agents, is considered well in the competence level of an ordinary skilled artisan, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 75, 77-80, 82, 85, 96-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over VAN OOUEN (WO 99/04646, PTO-1449), in view of Dunn et al. (US 4,824,686, PTO-892).

VAN OOUEN teaches piglet diet comprising corn, soya protein, formic acid, DL methionine (instant compound of formula (I), wherein R1 =CH₃, R2 = amino). It is taught that organic carboxylic acids such as eg formic acid has fungicidal and bactericidal activity. See page 1, lines 3- 7; page 3.

VAN OOUEN does not specifically teach at least two organic acids such as formic acid and propionic acid in the feed composition therein.

Dunn et al. teaches a method of killing microbes in animal feed such as pig feed, comprising treating animal feed with a binary blend of formic acid and propionic acid (preservative composition). See column 1-column 2; column 5-column 6. It is also taught that using a specific blend of formic acid and propionic acid, synergism is observed in respect of both their antimold and antibacterial activity. See column 1, lines 30-35.

It would have been obvious to a person of ordinary skill in the art at the time of invention to add propionic acid to the feed composition taught by VAN OOUEN because Dunn teaches that when a specific blend of formic acid and propionic acid is used, synergism is observed in respect of both their antimold and antibacterial activity. It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically

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from their having been used individually in the prior art. As shown by recited teachings of VAN OOUEN, and Dunn et al., the instant claims contain agents such as propionic acid, formic acid, useful as antimicrobial agents. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 75-82, and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paquet et al. (CA 1261855, PTO-892), in view of Dunn et al. (US 4,824,686, PTO-892).

Paquet et al. discloses a method of controlling growth of *Clostridium botulinum* in manufactured or processed foods employing N-acyl-D-amino acid derivatives which read on instant compound of Formula I. N-acyl methionine is disclosed as the antimicrobial compound therein having anti-microbial activities against organism such as *Clostridium botulinum*. See abstract; see page 12, Table 2 wherein N-acetyl-D-methionine which reads on instant compound of formula (I), when R₂ = -NHCOCH₃ is disclosed. The compounds therein having antimicrobial activity are mixed with food additives in the method for control of microorganisms in food products which contain

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water/moisture, particularly meat-containing products, and especially red meat containing products. See abstract; page 2, lines 1-5; page 3, line 19-page 4; claims 18-26. The food products include sausage, canned minced meat products, corned beef, luncheon meats, meat products comminuted and stuffed into casings. See page 4a, lines 15-18; page 6, line 21-page 7, line 10; page 12, Table 2 wherein acetyl-D-methionine which reads on instant compound of formula (I), when $R_2 = -NHCOCH_3$ is disclosed.

Paquet et al. does not specifically teach the combination of N-acyl methionine with other organic acids.

Dunn et al. teaches a method of killing microbes in animal feed comprising treating animal feed with a binary blend of formic acid and propionic acid (preservative composition). See column 1-column 2; column 5-column 6. It is also taught that using a specific blend of formic acid and propionic acid, synergism is observed in respect of both their antimold and antibacterial activity. See column 1, lines 30-35.

It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by the recited teachings of Paquet et al., and Dunn et al. the instant claims contain three antibacterial agents acetyl-D-methionine, and organic acids such as formic acid, propionic acid. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

Response to Arguments

Applicant's arguments with respect to Paquet's reference have been considered, but not found persuasive. It is pointed out as in the above rejection, Paquet et al. discloses a method of controlling growth of Clostridium botulinum in manufactured or processed foods employing N-acyl-D-amino acid derivatives which read on instant compound of Formula I. N-acyl methionine is disclosed as the antimicrobial compound therein having anti-microbial activities against organism such as Clostridium botulinum. See abstract; see page 12, Table 2 wherein N-acetyl-D-methionine which reads on instant compound of formula (I), when $R_2 = -NHCOCH_3$ is disclosed. The structure of N-acetyl-D-methionine is $CH_3SCH_2CH_2CH(NHCOCH_3)COOH$ which reads on instant compound of formula (I). Further, with respect to applicant's argument that "several teachings of Paquet are generally inconsistent with formula (I), including the preferred embodiments :wherein the X group, is selected from large acyl groups, such as sorbyl", it is pointed out that Applicant recites that R_3 in instant formula (I) can be sorbyl. See instant specification, page 16, line 4, where R_3 can be derived from sorbic acid by removal of carboxyl function.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 75, 77, 97, 99-103, 113-117, 133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr et al. (Poultry Science, 74 (1), 23, 1995, PTO-892), in view of Rolow et al. (US 6,355,289, PTO-892).

Doerr et al. discloses a method of killing mold in ground corn with a moisture content of about 17.5 %, by treating with hydroxy-methylthio butanoic acid. See page 23, abstract.

Doerr et al. does not specifically teach the combination of hydroxy-methylthio butanoic acid with other organic acids, and acidulant such as phosphoric acid.

Doerr et al. do not teach the particular amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids and acidulant.

Rolow teaches a method of extending the shelf life of tortillas made from corn flour by adding mold growth inhibitors i.e. preservatives or antimicrobial agents such as acetic acid, propionic acid, butyric acid, benzoic acid, phosphoric acid. See abstract; column 1, lines 55-58; column 3-column 4.

It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of Doerr et al. and Rolow et al., the instant claims contain agents useful for killing mold such as hydroxy-methylthio butanoic acid, propionic acid, butyric acid, phosphoric acid. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

It would have been obvious to a person of ordinary skill in the art at the time of invention to determine or optimize parameters such as effective amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids and acidulant.

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 2-hydroxy-4-(methylthio)butanoic acid, organic acids and acidulant employed in the compositions, since the optimization of effective amounts of known agents, is considered well in the competence level of an ordinary skilled artisan, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Furthermore, as the combined teachings of Doerr et al., and Rolow et al. renders the claimed composition obvious, the property of such a claimed composition will also be rendered obvious by the prior art teachings, since the properties, namely “pH of less than about 5”, “pH of about 4 to about 5”, “pH of about 4.5”, “improved odor” are inseparable from its composition. Therefore, if the prior art teaches the composition or renders the composition obvious, then the properties are also taught or rendered obvious by the prior art. *In re Spada*, 911 F.2d 705, 709, 15 USPQ 1655, 1658 (Fed. Cir. 1990.) See MPEP 2112.01. The burden is shifted to Applicant to show that the prior art product does not possess or render obvious the same properties as the instantly claimed product.

Response to Applicant's arguments:

Applicant's arguments have been considered, but not found persuasive. It is pointed out that Doerr et al. discloses a method of killing mold in ground corn by treating with hydroxy-methylthio butanoic acid, i.e the compound hydroxy-methylthio butanoic acid has antimicrobial activity. Rolow teaches acetic acid, propionic acid, butyric acid, benzoic acid, phosphoric acid as mold growth inhibitors. Thus, as shown by recited teachings of Doerr et al. and Rolow et al., the instant claims contain agents useful for killing mold hydroxy-methylthio butanoic acid, propionic acid, butyric acid, phosphoric acid. It is generally considered *prima facie* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. *In re Kerkhoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

The declaration under 37 CFR 1.132 filed by Dr. Christopher D. Knight is insufficient to overcome the rejection of claims 75, 77, 97, 99-103, 113-117, 133 based upon as being unpatentable over Doerr et al. (Poultry Science, 74 (1), 23, 1995, PTO-892), in view of Rolow et al. (US 6,355,289, PTO-892) as set forth in the last Office action. It is pointed out that the synergistic effect for two organic acid formulations provided by the applicant attached to the Declaration, i.e blend OA 4, which is 0.15% lactic acid, 0.15% propionic acid, and 0.15% HMTBA; and blend OA 6, which is 0.1% lactic acid, 0.1% butyric acid, 0.1% propionic acid, and 0.15% HMTBA is not convincing because no data is provided for the propionic acid alone for comparison. Moreover, figure 7 herein merely demonstrate one particular compound of formula (I), HMTBA with two organic acids in the method of killing one particular microbe, *Salmonella*. Thus, the

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evidence in figure 7 is also not commensurate in scope with the claimed invention and does not demonstrate criticality of a claimed range of the ingredients in the claimed method. See MPEP § 716.02(d). Therefore, the evidence presented in the declaration herein is not seen to support the nonobviousness of the instant claimed invention over the prior art.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Monday-Friday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner

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/SREENI PADMANABHAN/
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